

### REMARKS

Claim 5 has been canceled. Claims 1 and 6-7 have been amended. Claims 16 and 17 have been newly added. Basis for this new claims can be found on page 6, lines 3-10. Thus, claims 1-4 and 6-17 are presently in the application.

In regard to claim 1, the variable " $R^d$ " was included in the definition of " $R$ ", but the definition of  $R^d$ , itself, was inadvertently omitted. However, support for amending claim 1 to include a definition of  $R^d$  can be found in the definition of " $R^c$ " in claim 1 as originally filed. Inasmuch as  $R^c$  and  $R^e$  may form a six-membered aromatic ring,  $R^d$ , thus, must at least be hydrogen. As such,  $R^d$  in claim 1 and the specification at page 4 has been amended to recite hydrogen.

In regard to claims 6-7, these claims have been amended to include a pharmaceutically acceptable salt or solvate thereof, a buffer, a diluent or a excipient in the formulation. Basis for the amendments can be found in claim 1 and on page 24, lines 18-25, to page 25, lines 1-4. Additionally, claims 6-7 have been amended to correct the antecedent basis (" $a$ " has been replaced by "said"). Furthermore, claim 7 has been amended to correct an obvious typographical error ("an antifungal" infection has been replaced by "a fungal" infection). Basis for this amendment can be found on page 26, lines 5-23.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

For the Examiner's convenience, a clean claim set is attached.

Early and favorable action on the merits is respectfully requested.

Please charge any fees or credit any overpayment in connection with this application which may be required by this or any related paper to Deposit Account No. 05-0840.

If the Examiner has any questions, or would like to discuss any matters in connection with this application, he or she is invited to contact the undersigned at (317) 277-3537.

Respectfully submitted,

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Attachments: Clean Claim Set

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**In the Specification**

On page 4 of the specification, after the sentence, “R<sup>c</sup> is hydrogen, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkoxy...;” please insert the following

--R<sup>d</sup> is hydrogen;--

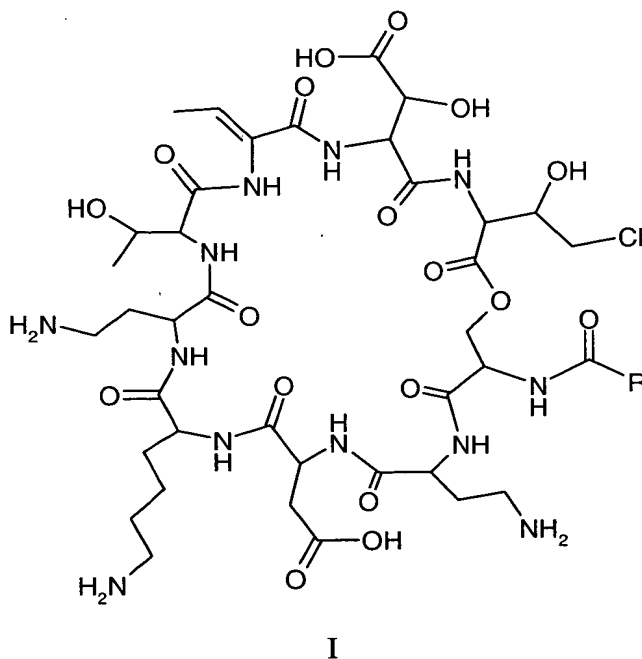
On page 6 of the specification, line 8, please replace “an antifungal” with “a fungal”.

**In the claims:**

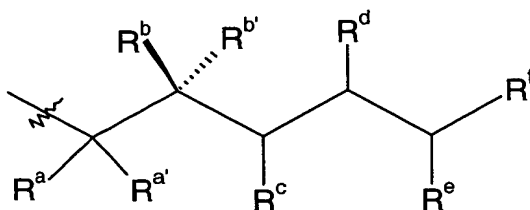
Claim 5 has been cancelled.

The claims have been amended as follows:

1. (Amended) A compound represented by structure I



wherein R is



where

$R^a$  and  $R^{a'}$  are independently hydrogen or methyl, or either  $R^a$  or  $R^{a'}$  is alkyl amino, taken together with  $R^b$  or  $R^{b'}$  forms a six-membered cycloalkyl ring, a six-membered aromatic ring or a double bond, or taken together with  $R^c$  forms a six-membered aromatic ring;

$R^b$  and  $R^{b'}$  are independently hydrogen, halogen, or methyl, or either  $R^b$  or  $R^{b'}$  is amino, alkylamino,  $\alpha$ -acetoacetate, methoxy, or hydroxy provided that  $R^{b'}$  is not hydroxy when  $R^a$ ,  $R^b$ ,  $R^d$ ,  $R^e$  are hydrogen,  $R^c$  is hydrogen and  $R^f$  is *n*-hexyl, *n*-octyl or *n*-decyl, or  $R^a$ ,  $R^b$ ,  $R^d$ ,  $R^e$  are hydrogen,  $R^c$  is hydroxy and  $R^f$  is *n*-octyl, *n*-nonyl, or *n*-decyl;

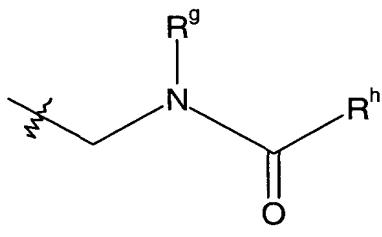
$R^c$  is hydrogen, hydroxy,  $C_1$ - $C_4$  alkoxy, hydroxyalkoxy, or taken together with  $R^e$  forms a 6-membered aromatic ring or  $C_5$ - $C_6$  cycloalkyl ring;

$R^d$  is hydrogen;

$R^e$  is hydrogen, or taken together with  $R^f$  is a six-membered aromatic ring,  $C_5$ - $C_{14}$  alkoxy substituted six-membered aromatic ring, or  $C_5$ - $C_{14}$  alkyl substituted six-membered aromatic ring, and

$R^f$  is  $C_8$ - $C_{18}$  alkyl,  $C_5$ - $C_{11}$  alkoxy, or biphenyl; or

R is

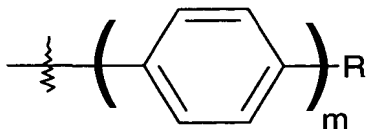


where

$R^g$  is hydrogen, or  $C_1$ - $C_{13}$  alkyl, and

$R^h$  is  $C_1$ - $C_{15}$  alkyl,  $C_4$ - $C_{15}$  alkoxy, ( $C_1$ - $C_{10}$  alkyl)phenyl,  $-(CH_2)_n$ -aryl, or  $-(CH_2)_n$ -( $C_5$ - $C_6$  cycloalkyl), where  $n = 1-2$ ; or

R is

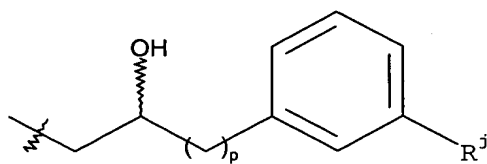


where

$R^i$  is a hydrogen, halogen, or  $C_5$ - $C_8$  alkoxy, and

$m$  is 1, 2 or 3;

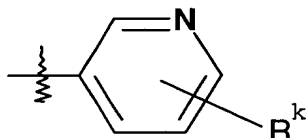
R is



where

R<sup>j</sup> is C<sub>5</sub>-C<sub>14</sub> alkoxy or C<sub>5</sub>-C<sub>14</sub> alkyl, and p = 0, 1 or 2;

R is



where

R<sup>k</sup> is C<sub>5</sub>-C<sub>14</sub> alkoxy; or

R is -(CH<sub>2</sub>)-NR<sup>m</sup>-(C<sub>13</sub>-C<sub>18</sub> alkyl), where R<sup>m</sup> is H, -CH<sub>3</sub> or

-C(O)CH<sub>3</sub>; and

pharmaceutically acceptable salts and solvates thereof.

6. (Amended) A pharmaceutical formulation comprising [a] said pseudomycin compound or said pharmaceutically acceptable salt or solvate thereof of Claim 2 and a pharmaceutically acceptable carrier, diluent, buffer, or excipient.

7. (Amended) A method for treating [an antifungal] a fungal infection in an animal in need thereof, comprising the steps of administering to said animal [a] said pseudomycin compound [of Claim 2] or said pharmaceutically acceptable salt or solvate thereof of Claim 2.

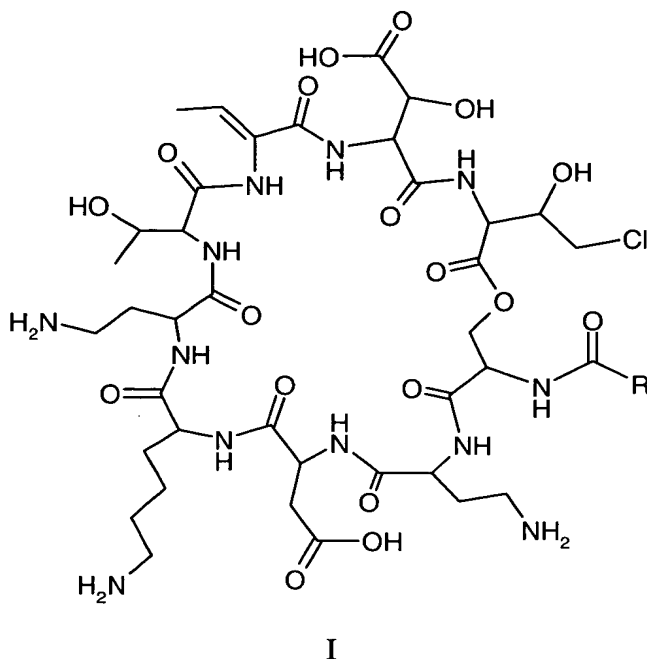
Claims 16 and 17 have been added as follows:

--16. A pharmaceutical formulation comprising said pseudomycin compound or said pharmaceutically acceptable salt or solvate thereof of Claim 1 and a pharmaceutically acceptable carrier, diluent, buffer, or excipient.--

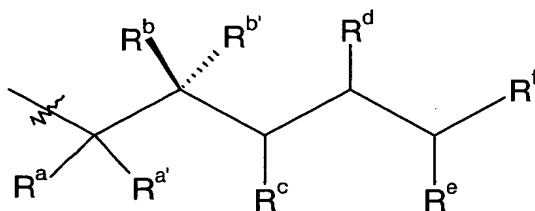
--17. A method for treating a fungal infection in an animal in need thereof, comprising the steps of administering to said animal said pseudomycin compound or said pharmaceutically acceptable salt or solvate thereof of Claim 1.--

# CLEAN CLAIM SET

1. A compound represented by structure I



wherein R is



where

$R^a$  and  $R^{a'}$  are independently hydrogen or methyl, or either  $R^a$  or  $R^{a'}$  is alkyl amino, taken together with  $R^b$  or  $R^{b'}$  forms a six-membered cycloalkyl ring, a six-membered aromatic ring or a double bond, or taken together with  $R^c$  forms a six-membered aromatic ring;

$R^b$  and  $R^{b'}$  are independently hydrogen, halogen, or methyl, or either  $R^b$  or  $R^{b'}$  is amino, alkylamino,  $\alpha$ -acetoacetate, methoxy, or hydroxy provided that  $R^{b'}$  is not hydroxy when  $R^a$ ,  $R^b$ ,  $R^d$ ,  $R^e$  are hydrogen,  $R^c$  is hydrogen and  $R^f$  is *n*-hexyl, *n*-octyl or *n*-decyl, or  $R^a$ ,  $R^b$ ,  $R^d$ ,  $R^e$  are hydrogen,  $R^c$  is hydroxy and  $R^f$  is *n*-octyl, *n*-nonyl, or *n*-decyl;

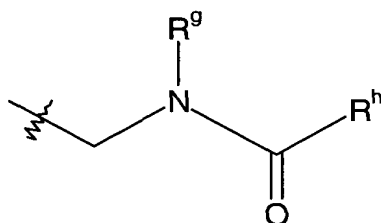
$R^c$  is hydrogen, hydroxy,  $C_1$ - $C_4$  alkoxy, hydroxyalkoxy, or taken together with  $R^e$  forms a 6-membered aromatic ring or  $C_5$ - $C_6$  cycloalkyl ring;

$R^d$  is hydrogen;

$R^e$  is hydrogen, or taken together with  $R^f$  is a six-membered aromatic ring,  $C_5$ - $C_{14}$  alkoxy substituted six-membered aromatic ring, or  $C_5$ - $C_{14}$  alkyl substituted six-membered aromatic ring, and

$R^f$  is  $C_8$ - $C_{18}$  alkyl,  $C_5$ - $C_{11}$  alkoxy, or biphenyl; or

R is

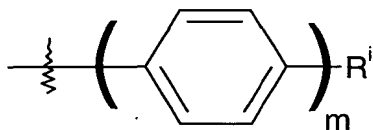


where

$R^g$  is hydrogen, or  $C_1$ - $C_{13}$  alkyl, and

$R^h$  is  $C_1$ - $C_{15}$  alkyl,  $C_4$ - $C_{15}$  alkoxy,  $(C_1$ - $C_{10}$  alkyl)phenyl,  $-(CH_2)_n$ -aryl, or  $-(CH_2)_n$ -( $C_5$ - $C_6$  cycloalkyl), where  $n = 1-2$ ; or

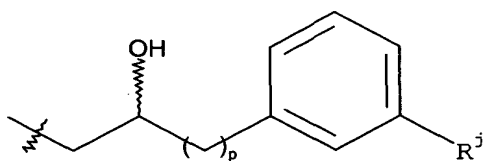
R is



where

$R^i$  is a hydrogen, halogen, or  $C_5$ - $C_8$  alkoxy, and  
m is 1, 2 or 3;

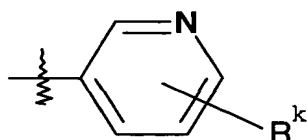
R is



where

$R^j$  is  $C_5$ - $C_{14}$  alkoxy or  $C_5$ - $C_{14}$  alkyl, and  $p = 0, 1$  or  $2$ ;

R is



where

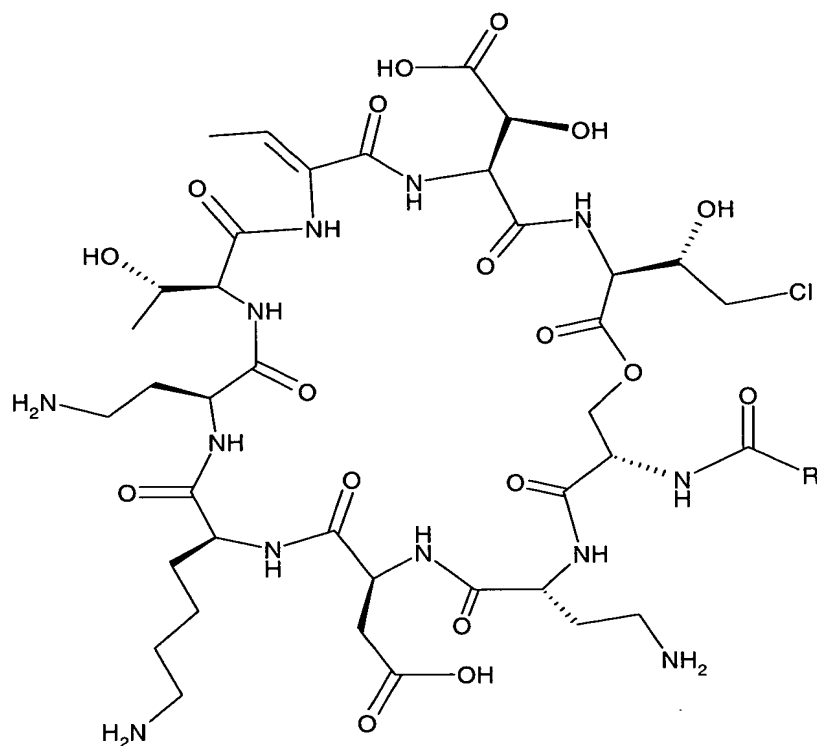
$R^k$  is  $C_5$ - $C_{14}$  alkoxy; or

$R$  is  $-(CH_2)-NR^m-(C_{13}-C_{18} \text{ alkyl})$ , where  $R^m$  is H,  $-CH_3$  or

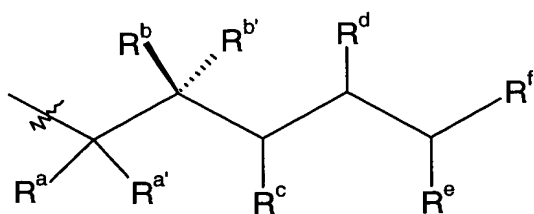
$-C(O)CH_3$ ; and

pharmaceutically acceptable salts and solvates thereof.

2. The compound of Claim 1 wherein structure I has the following stereochemistry



3. The compound of Claim 1 wherein  $R$  is



where

$R^a$  and  $R^{a'}$  are independently hydrogen or methyl, or either  $R^a$  or  $R^{a'}$  is alkyl amino, taken together with  $R^b$  or  $R^{b'}$  forms a six-membered cycloalkyl ring, a six-



membered aromatic ring or a double bond, or taken together with R<sup>c</sup> forms a six-membered aromatic ring;

R<sup>b</sup> and R<sup>b'</sup> are independently hydrogen, halogen, or methyl, or either R<sup>b</sup> or R<sup>b'</sup> is amino, alkylamino,  $\alpha$ -acetoacetate, methoxy, or hydroxy provided that R<sup>b'</sup> is not hydroxy when R<sup>a</sup>, R<sup>b</sup>, R<sup>d</sup>, R<sup>e</sup> are hydrogen, R<sup>c</sup> is hydrogen and R<sup>f</sup> is *n*-hexyl, *n*-octyl or *n*-decyl, or R<sup>a</sup>, R<sup>b</sup>, R<sup>d</sup>, R<sup>e</sup> are hydrogen, R<sup>c</sup> is hydroxy and R<sup>f</sup> is *n*-octyl, *n*-nonyl, or *n*-decyl;

R<sup>c</sup> is hydrogen, hydroxy, C<sub>1</sub>-C<sub>4</sub> alkoxy, hydroxyalkoxy, or taken together with R<sup>e</sup> forms a 6-membered aromatic ring or C<sub>5</sub>-C<sub>6</sub> cycloalkyl ring;

R<sup>e</sup> is hydrogen, or taken together with R<sup>f</sup> is a six-membered aromatic ring, C<sub>5</sub>-C<sub>14</sub> alkoxy substituted six-membered aromatic ring, or C<sub>5</sub>-C<sub>14</sub> alkyl substituted six-membered aromatic ring, and

R<sup>f</sup> is C<sub>8</sub>-C<sub>18</sub> alkyl, C<sub>5</sub>-C<sub>11</sub> alkoxy, or biphenyl.

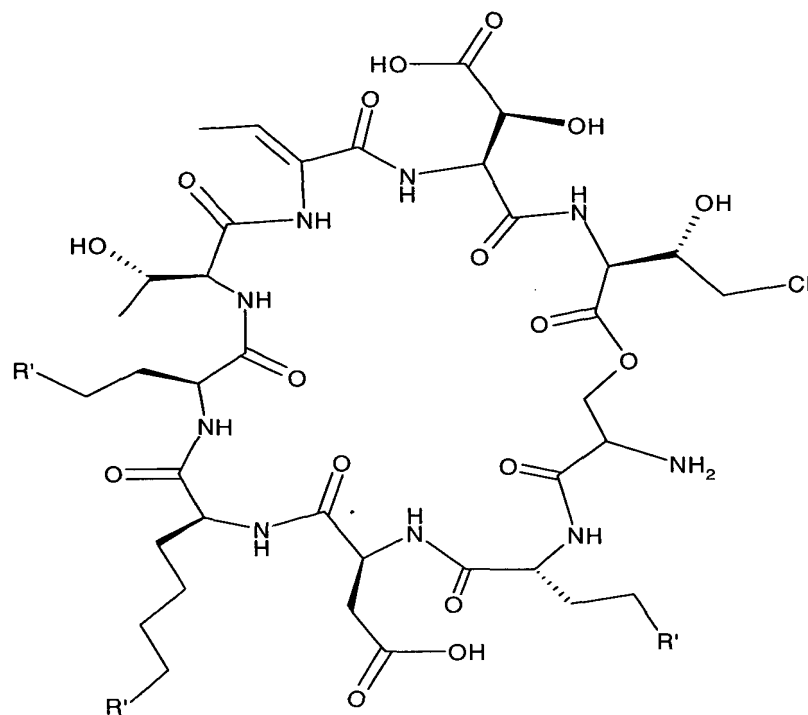
4. The compound of Claim 3 wherein R<sup>b'</sup> is hydroxy provided that R<sup>c</sup> is not hydrogen when R<sup>a</sup>, R<sup>b</sup>, R<sup>d</sup>, R<sup>e</sup> are hydrogen and R<sup>f</sup> is *n*-hexyl, *n*-octyl or *n*-decyl, or R<sup>c</sup> is not hydroxy when R<sup>f</sup> is *n*-octyl, *n*-nonyl, or *n*-decyl.

6. A pharmaceutical formulation comprising said pseudomycin compound or said pharmaceutically acceptable salt or solvate thereof of Claim 2 and a pharmaceutically acceptable carrier, diluent, buffer, or excipient.

7. A method for treating a fungal infection in an animal in need thereof, comprising the steps of administering to said animal said pseudomycin compound or said pharmaceutically acceptable salt or solvate thereof of Claim 2.

8. A process for producing a pseudomycin nucleus comprising the steps of providing a pseudomycin compound having an N-acyl alkyl side-chain containing at least one gamma or delta hydroxy group and reacting said pseudomycin compound with an acid to produce said pseudomycin nucleus.

9. The process of Claim 8 wherein said pseudomycin nucleus is represented by structure I-A



**I-A**

wherein R' is -NH<sub>2</sub> or -NHp-Pg where Pg is an amino protecting group and p is 0 or 1.

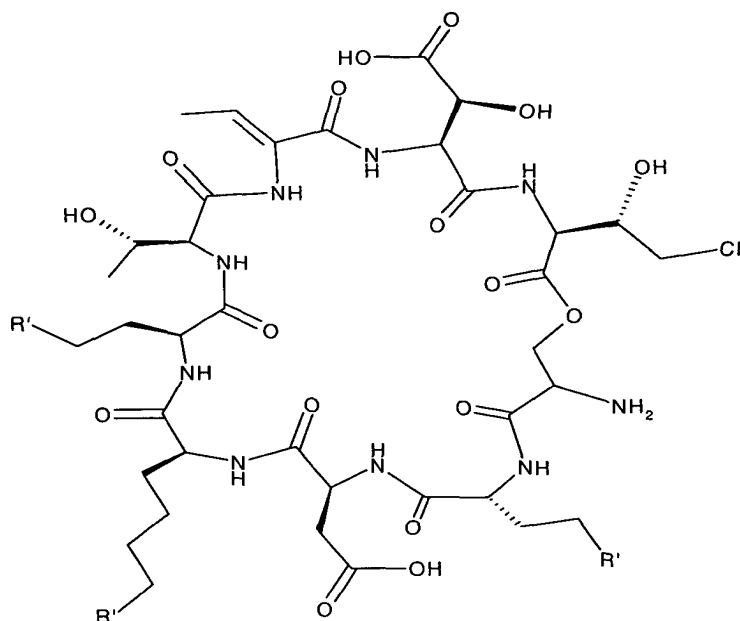
10. The process of Claim 8 wherein said pseudomycin compound having an N-acyl alkyl side-chain containing at least one gamma or delta hydroxy group is selected from the group consisting of pseudomycin A, pseudomycin A' and pseudomycin C.

11. The process of Claim 8 wherein said acid is trifluoroacetic acid or acetic acid.

12. The process of Claim 11 wherein said acid is trifluoroacetic acid.

13. A pseudomycin nucleus prepared by the process of Claim 8.

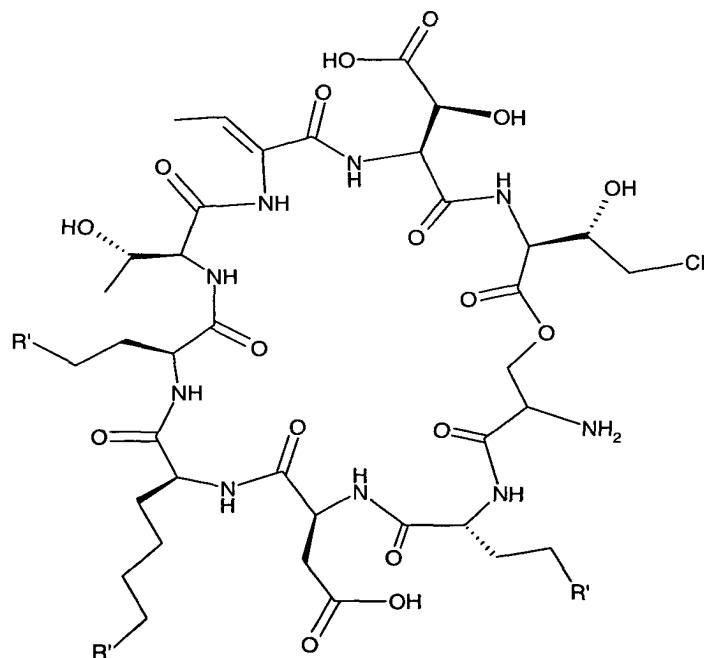
14. The pseudomycin nucleus of Claim 13 wherein said nucleus is represented by structure I-A



**I-A**

wherein R' is -NH<sub>2</sub> or -NHp-Pg where Pg is an amino protecting group and p is 0 or 1.

15. A pseudomycin nucleus represented by structure I-A



**I-A**

wherein R' is -NH<sub>2</sub> or -NHp-Pg where Pg is an amino protecting group and p is 0 or 1.

Year	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	